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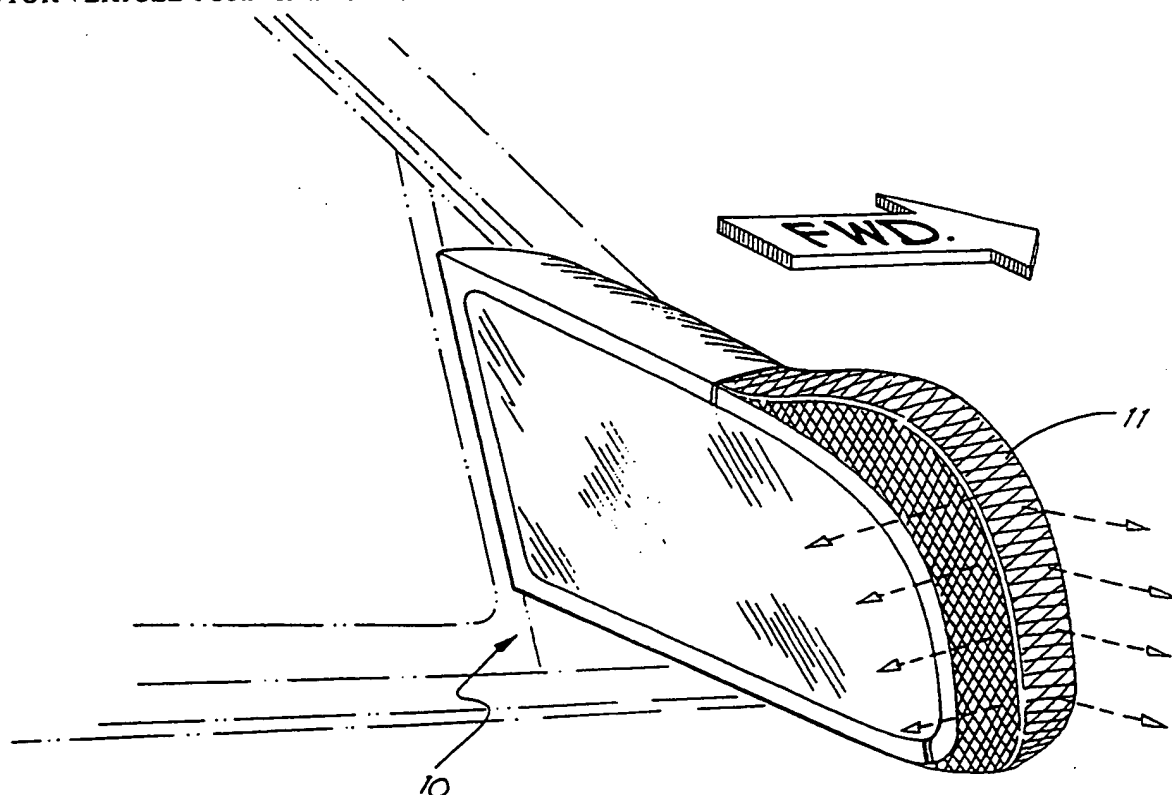
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification: B60Q 1/32, 1/38	A1	(11) International Publication Number: WO 89/ 01425 (43) International Publication Date: 23 February 1989 (23.02.89)
<p>(21) International Application Number: PCT/AU88/00287</p> <p>(22) International Filing Date: 3 August 1988 (03.08.88)</p> <p>(31) Priority Application Number: PI 3612</p> <p>(32) Priority Date: 7 August 1987 (07.08.87)</p> <p>(33) Priority Country: AU</p> <p>(71)(72) Applicant and Inventor: PEEL, Robert, Nash [AU/AU]; 18 Murray Island, Sylvania Waters, NSW 2224 (AU).</p> <p>(74) Agent: F.B. RICE & CO.; P.O. Box 117, Balmain, NSW 2041 (AU).</p> <p>(81) Designated States: AT (European patent), AU, BE (European patent), CH (European patent), DE (European patent), FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), SE (European patent), US.</p>		<p>Published <i>With international search report.</i></p>

(54) Title: MOTOR VEHICLE TURN INDICATORS



(57) Abstract

The provision in a motor vehicle of external rear vision mirrors (10) having arranged on them turn indicator lights (11), the mirrors (10) extending from each side of the vehicle in the line of vision of a driver of the vehicle so that operation of the turn signal lights (11) can be seen by the driver and is readily apparent to a vehicle approaching from the rear or at one side of the vehicle. The invention utilises rear vision mirrors (10) incorporating on their peripheries illuminated turn signal means (11).

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MOTOR VEHICLE TURN INDICATORS

The present invention relates to motor vehicle turn indicators.

Conventionally motor vehicles are provided with turn
5 indicator lights at each end of the front and rear bumper
bars. These are arranged so that on operation of a switch
by the driver of the vehicle the lights at the front and
rear of one side of the vehicle are caused to flash on and
off to indicate an intention on the part of the driver to
10 turn in that direction.

Such indicator lights are generally very
satisfactory. They do, however, have two shortcomings,
one of which is that the driver himself cannot see whether
or not the lights are operating but has to rely on a small
15 indicator placed on the dashboard of the vehicle. Apart
from being sure that the signal lights are operating it is
important to know that operation has been cancelled after
a turn has been made. The continued operation of turn
signal lights in circumstances in which a turn is not
20 intended can be very dangerous. A second shortcoming of
conventional turn signal lights is that, if a vehicle
coming alongside a vehicle, in which the driver has
operated the turn signal lights to indicate an intention
to turn, has passed the rear signal light, it is difficult
25 for the driver of the passing vehicle to see the front
signal lights although these are normally designed to give
some indication at the side of the vehicle.

The object of the present invention is to provide an
arrangement of signal lights which assist in overcoming
30 these shortcomings.

The present invention consists in the provision in a
motor vehicle of illuminable turn signal means arranged on
external rear vision mirrors of the vehicle extending from
each side of the vehicle within the vision of a driver of
35 the vehicle whereby operation of the turn signal lights

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can be seen by the driver and is readily apparent to a vehicle approaching from the rear or at one side of the vehicle.

The present invention further consists in an external rear vision mirror for a motor vehicle incorporating on its periphery illuminable turn signal means.

In order that the nature of the invention may be better understood preferred forms thereof are hereinafter described by way of example with reference to the accompanying drawings in which:-

Fig. 1 is a view in elevation of an external mirror for a vehicle incorporating turn signal lights according to the invention;

Fig. 2 is a similar view of an alternative form of construction; and

Fig. 3 is a similar view of a third form of construction; and

Fig. 4 is a perspective view of the mirror shown in Fig. 1 attached to a vehicle.

In the three forms of the invention illustrated in the drawings mirrors indicated at 10, 10a and 10b all have incorporated in them illuminable turn indicating means which are actuated and electrically controlled in a conventional manner. The means of actuation and the controls being conventional will therefore not be described.

In the arrangement shown in Fig. 1 the mirror 10 has formed integrally with it a translucent enclosure 11 in amber coloured plastic material which is arranged to contain one or more light sources so that on actuation of the turn indicator the whole is illuminated by an intermittently flashing light in a conventional manner. The transparent plastic enclosure 11 extends around a part of the periphery of the mirror 10 and is positioned in such a manner as to readily visible to the driver of the

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vehicle and also to any vehicle particularly a motor cycle approaching from behind and coming alongside the vehicle in question.

5 In Fig. 2 the enclosure 11a is placed entirely at the side of the mirror which is otherwise constructed in the same manner as 11 of Fig. 1.

Fig. 3 shows a third variation in which a mirror 10b has an enclosure 11b arranged along a portion of the upper edge of the mirror only.

10 It will be appreciated that in all cases the mirrors are attached externally to a vehicle, usually on the door of the vehicle below the window, at sill level, towards the forward end of the window. The mounting means for the mirror enables the mirror to be adjusted positionally
15 manually or electrically preferably from within the vehicle. Such are on both sides of the vehicle the mirrors being constructed in pairs so as to be suitable for mounting on either side of the vehicle.

The forms of the invention described above are merely
20 illustrative of different ways in which the invention as defined in the succeeding claims may be applied in practice but as it will be obvious to those skilled in the art many other forms of the application of the invention would be feasible.

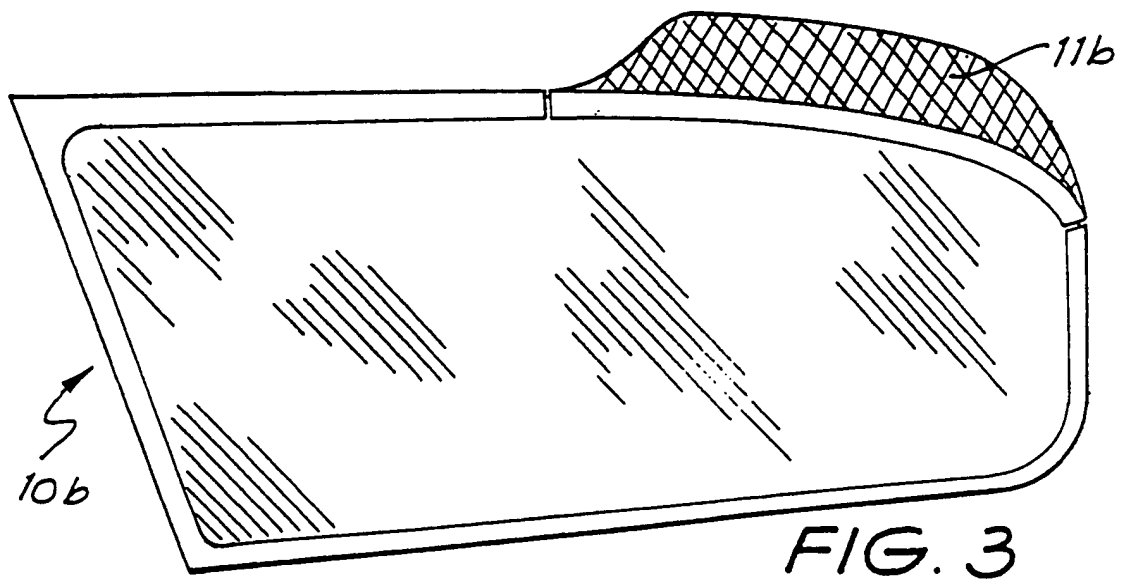
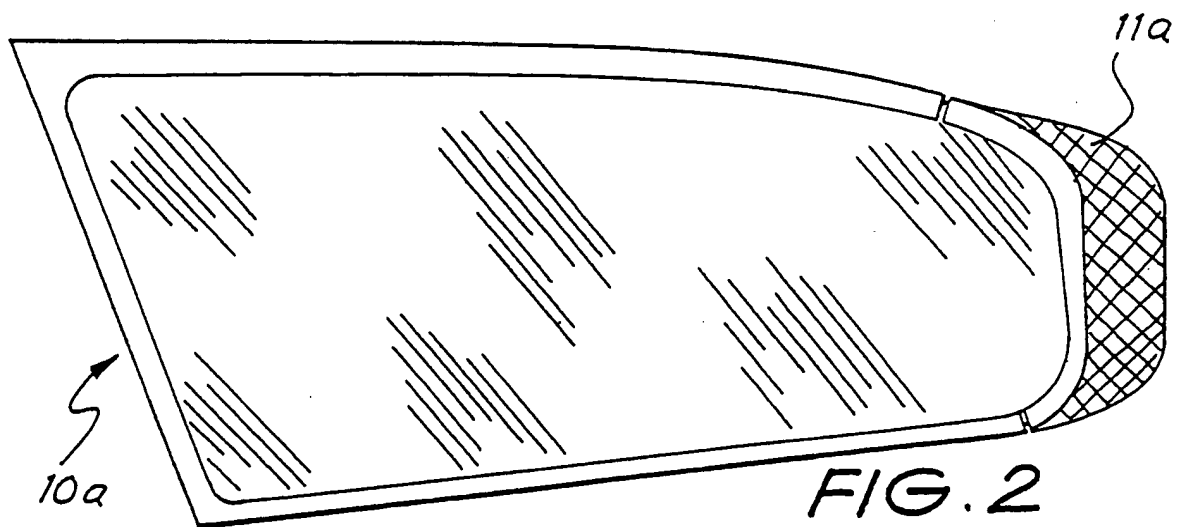
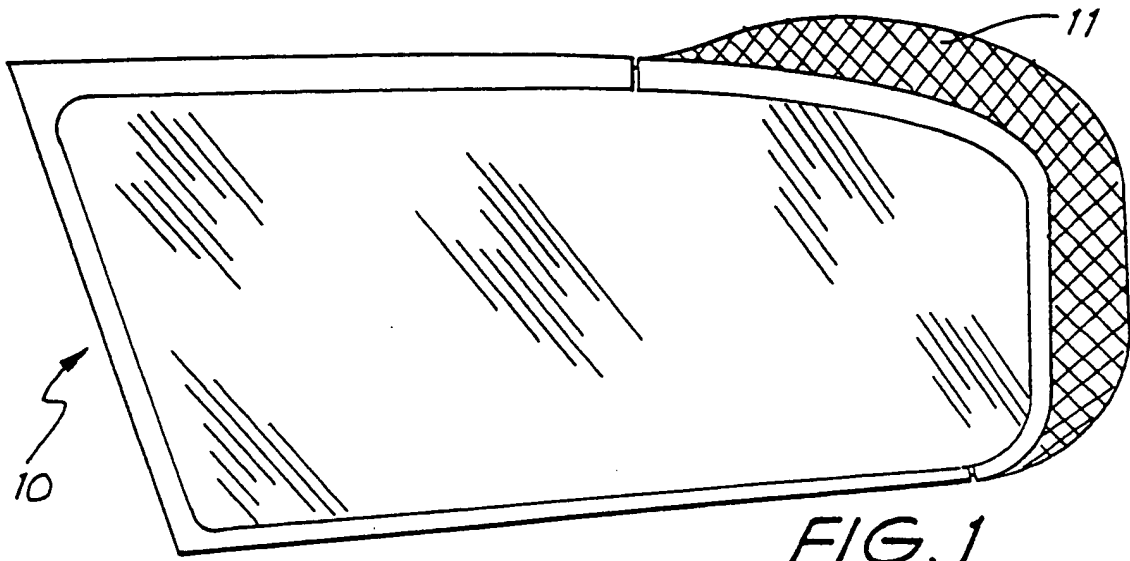
25 The invention provides an arrangement in which the turn indicator lights are readily visible to a driver and provide a ready indication that the turn indicator lights are in operation and give an immediate indication to the driver if the signal has not been cancelled after a turn
30 has been completed.

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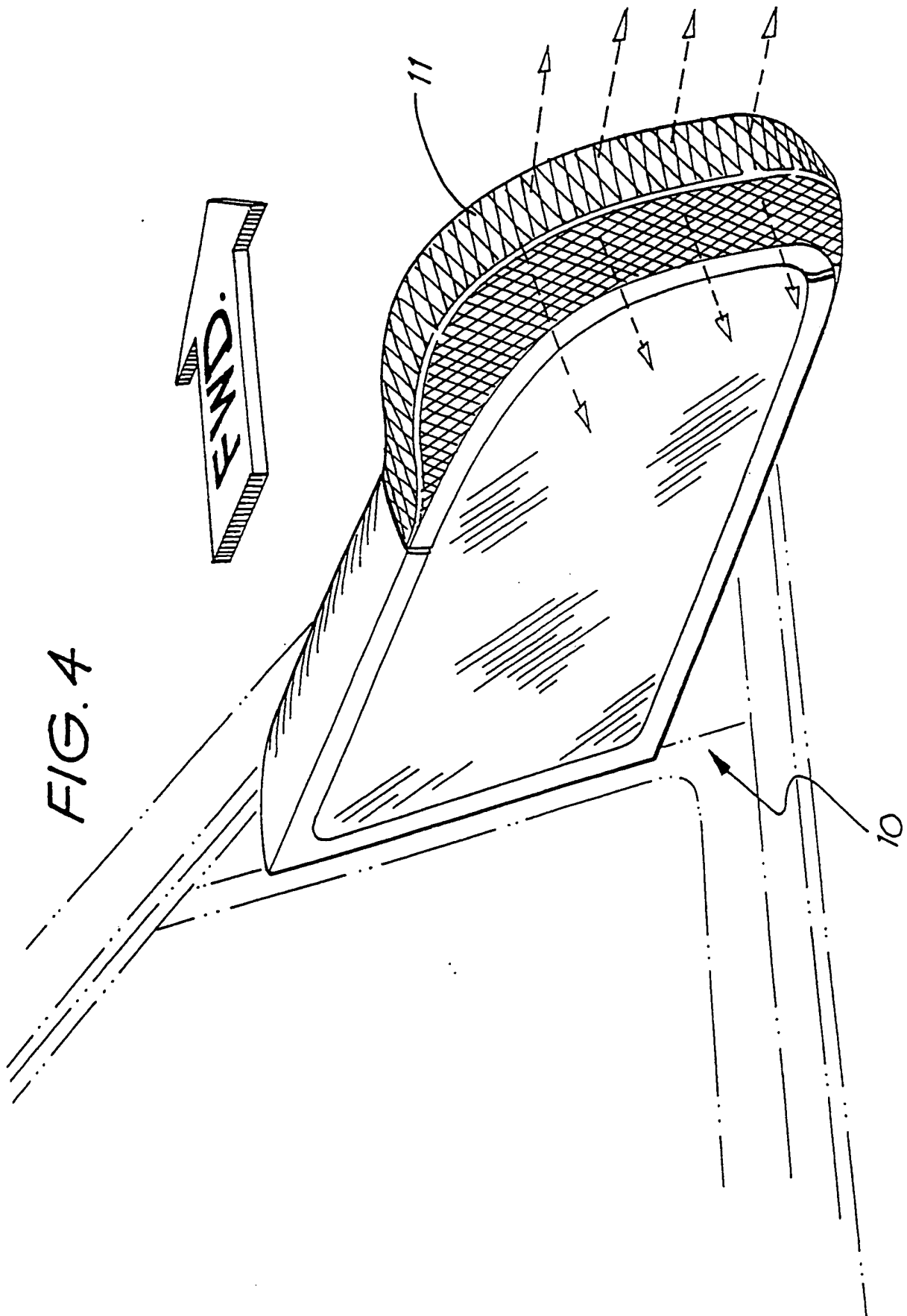
CLAIMS:-

1. In a motor vehicle the provision of illuminable turn signal means arranged on external rear vision mirrors of the vehicle extending from each side of the vehicle in the line of vision of a driver of the vehicle whereby operation of the turn signal lights can be seen by the driver and is readily apparent to a vehicle approaching from the rear or at one side of the vehicle.
2. In a motor vehicle the arrangement claimed in Claim 1 wherein the illuminated turn signal means consists in a translucent enclosure containing a light source, the enclosure extending around a part of the periphery of the mirror.
3. An external rear vision mirror for a motor vehicle incorporating on its periphery illuminable turn signal means.

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INTERNATIONAL SEARCH REPORT

International Application No PCT/AU 88/00287

I. CLASSIFICATION OF SUBJECT MATTER : 1. 19-07-01 Classification symbols apply. indicate only

According to International Patent Classification (IPC) or to both National Classification and IPC

Int. Cl.⁴ B60Q 1/32, 1/38

II. FIELDS SEARCHED

Minimum Documentation Searched *

Classification System

Classification Symbols

IPC B60Q 1/32, 1/38

Documentation Searched other than Minimum Documentation
to the Extent that such Documents are Included in the Fields Searched *

AU : IPC as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT *

Category *	Citation of Document, ** with indication, where appropriate, of the relevant passages **	Relevant to Claim No **
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- | | | |
|---|---|-------|
| X | AU,B, 3900/38 (108452 (H.A. BETTON) 14 September 1939 (14.09.39) | (1-3) |
| X | US,A, 1415465 (O.I. NIGH) 9 May 1922 (09.05.22) | (1-3) |
| X | US,A, 4661800 (T. YAMAZAKI) 28 April 1987 (28.04.87) | (1-3) |
| X | DE,A, 2729849 (SAFETY RESEARCH CORP.) 17 August 1978 (17.08.78) | (1-3) |
| X | Patents Abstracts of Japan M-565, page 55
JP,A, 61-220948 (SEIKO EPSON CORP) 1 October 1986 (01.10.86) | (1-3) |

* Special categories of cited documents: **

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "T" earlier document but published on or after the international filing date
- "L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

- "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

- "Z" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search

27 October 1988 (27.10.88)

Date of Making of this International Search Report

17 NOVEMBER 1988 (17.11.88)

International Searching Authority

Australian Patent Office

Signature of Authorized Officer

M.E. Dixon

M.E. DIXON

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE

The international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☐ Claim numbers because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim numbers because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claim numbers because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

VL ☐ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.
2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. ☐ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remarks on Protest

- ☐ The additional search fees were accompanied by applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON
INTERNATIONAL APPLICATION NO. PCT/AU 88/00287

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Members					
US	4661800	DE	3515922	FR	2576258	JP	61166745

END OF ANNEX